

SEMINAIRE

mercredi 8 décembre 2010, 10h30

Rennes, Campus de Beaulieu
Amphithéâtre, Bât. 10B

Synthesis, functionalization and applications of colloidal nanoparticles

par

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Colloidal nanocrystals are employed in several fields of science ranging from biology and medicine and the development of new diagnostic methods, drug delivery, and imaging, to physics and engineering and the fabrication of novel devices for energy conversion and storage. The major reason for the vast range of applications of colloidal nanocrystals is the ability to easily tune the density of their electronic states, which allows the control of their magnetic, optical, electrical, catalytic and mechanical properties, characteristic for different materials. The control over the properties of these nanocrystals can be achieved by chemically adjusting their size, shape, and composition as well as by carefully selecting the organic molecules to coat their surface.

In this presentation I will discuss general strategies to control the morphology and functionality of colloidal nanocrystals and I will show our recent developments producing strategically engineered nanocrystals and using them in biomedical and physicochemical applications.

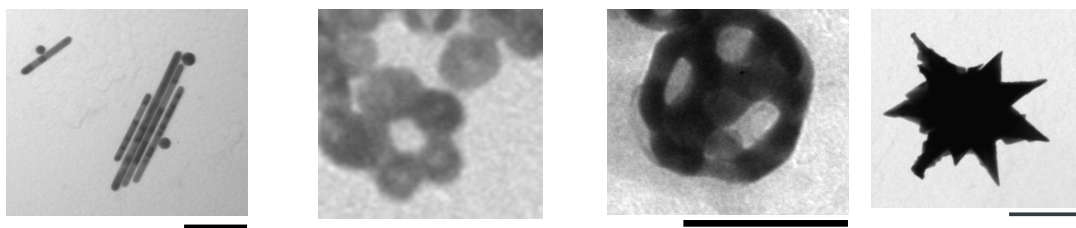


Figure. Different sizes and shapes of colloidal gold nanoparticles. Scale bar is 90 nm.

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